analysis of the spontaneous speech concatenated with vowel maintained (according to mathematical model of Youri Maryn y cols: AVQ1) and videoestroboscopy protocol. Furthermore, a completed analysis and history of referral data of toxicity and oncology results will be done including questionnaires of quality of life (Voice Handicap Index and Voice Activity Participation Profile). Patients will be evaluated pre-treatment, and 3, 12 and 24 months after treatment.
Conclusion. The study is in the inclusion-phase ($n = 8$, minimum expected sample $n = 30$) however, preliminary results demonstrate that the acoustic algorithm is an objective and effective measurement of the evolutionary changes of vocal dynamics caused by irradiation, presenting high correlation with the perceptual valuation and quality of life index. Note: acoustic algorithm pre and post-treatment of one of the patients will be shown in the Congress by audio archives and images of videoestroboscopy images.

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Volumetric changes in the GTV during radiotherapy in H&N tumours

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Introduction. In patients with head and neck (H&N) tumours, the variations of the tumour's volume as response to the radiotherapy during the treatment, should be measurable in order to decrease the dose and positioning uncertainties.
Objective. The principal aim of this study is to check the volumetric changes of the GTV during the treatment.
Methods. Between December, 2010 and July, 2012, we included 20 diagnosed patients of H&N tumours at stages III and IV: 3 oral cavities, 2 salivary glands, 2 hipopharynxes, 2 supraglotic larynxes, 2 nasopharynxes, 2 unknown origin tumours of H&N, and 7 oropharynxes. All of them received conservative treatment with concomitant chemoradiotherapy. Operated tumours, neoadjuvant chemotherapy, and palliative treatments were excluded. We realized CT for 3D planning with photon fields. We used magnetic resonance (MR) for fusion in 6 cases. Later on, we projected three CTs in the course of treatment in order to check the GTVs volume variations.
Results. The average of time for treatments was 48,10 days (38–57). The CTs for verification, were done after an average of 9 (5–24), 14 (10–29) and 23 (16–35) days, with an average of accumulated doses at the time of realizing the CTs of 18.10 (10–48), 29.12 (20–58) and 46.7 Gy (36–70) for the first, second and third CT respectively. The GTVs delineated using the first, second and third CT were, for average term, 79.83% (44–150), 68.79% (36–199) and 52.09% (18–122) of the original GTVs contoured in the planning CTs.
Conclusion. The volumetric changes of the GTVs during the radiotherapy are evident, and it is convenient to control them during the treatment in order to consider adjustments in the planning. The addition of imaging tests like PET or MR probably would help to optimize and give more precise contouring of the volumes during the treatment.

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